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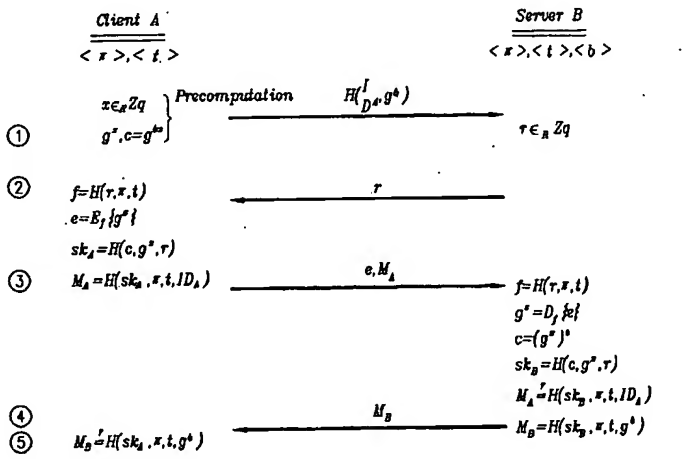
(54) Title: TWO-FACTOR AUTHENTICATED KEY EXCHANGE METHOD AND AUTHENTICATION METHOD USING THE SAME, AND RECORDING MEDIUM STORING PROGRAM INCLUDING THE SAME



(57) Abstract: A two-factor authenticated key exchange method. A subscriber station transmits a value generated by using an identifier and an authentication server's public key to the authentication server through an access point. The authentication server uses the value to detect the subscriber's password, a key stored in a token, and the authentication server's secret key, generate a random number. The subscriber station uses the random number, password, and the key to transmit an encrypted value and the subscriber's authenticator to the authentication server. The authentication server establishes a second value generated by using the password, key, and random number to be a decrypted key to decrypt the encrypted value, authenticate the subscriber's authenticator, and transmits the authentication server's authenticator to the subscriber station. The subscriber station authenticates the authentication server's authenticator by using the key and password.

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